

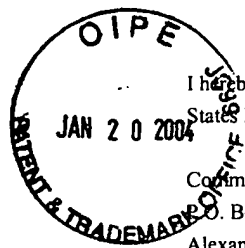


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|--|---|------------------------|--------------------|
| <b>TRANSMITTAL FORM</b><br><i>(to be used for all correspondence after initial filing)</i> |   | Application Number     | 10/669,499         |
|  |   | Filing Date            | September 23, 2003 |
|  |   | First Named Inventor   | Pause, Chris D.    |
|  |   | Art Unit               | 2863               |
|  |   | Examiner Name          | Tung S. Lau        |
| Total Number of Pages in This Submission   | 9 | Attorney Docket Number | 016866-006211US    |

| ENCLOSURES (Check all that apply)  |  |  |
|--|--|--|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input checked="" type="checkbox"/> Information Disclosure Statement<br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Response to Missing Parts/Incomplete Application<br><input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) | <input type="checkbox"/> After Allowance Communication to Group<br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):<br>Return Postcard |
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| Firm or Individual                         | Townsend and Townsend and Crew LLP<br>Patrick R. Jewik<br>Reg. No. 40,456 |
| Signature                                  |   |
| Date                                       | January 15, 2004  |

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PATENT  
Attorney Docket No.: 016866-006211US

On 1-15-04

TOWNSEND and TOWNSEND and CREW LLP

By: London Clark

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Chris D. Paulse, et al.

Application No.: 10/669,499

Filed: September 23, 2003

For: METHOD FOR ANALYZING  
MASS SPECTRA

Examiner: Tung S. Lau

Art Unit: 2863

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR §1.97 and  
§1.98

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. In accordance with 37 CFR §1.98(d), copies of the references can be found in Application No. 09/999,081, filed November 15, 2001 now US patent 6,675,104 B2 (Attorney Docket No. 016866-006210US). It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement.

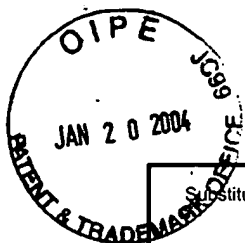
However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Patrick R. Jewik', is written over a horizontal line.

Patrick R. Jewik  
Reg. No. 40,456

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|---|---|----|--------------------------|------------------------|-----------------|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(use as many sheets as necessary) |   |    | <b>Complete if Known</b> |                        |                 |
|   |   |    | Application Number       | 10/669,499             |                 |
|   |   |    | Filing Date              | September 23, 2003     |                 |
|   |   |    | First Named Inventor     | Paulse, Chris D.       |                 |
|   |   |    | Art Unit                 | 2863                   |                 |
| Sheet   | 1 | of | 6                        | Examiner Name          | Tung S. Lau     |
|   |   |    |                          | Attorney Docket Number | 016866-006211US |

| U.S. PATENT DOCUMENTS+ |                          |  |                                |  |   |
|------------------------|--------------------------|--|--------------------------------|--|---|
| Examiner<br>Initials*  | Cite<br>No. <sup>1</sup> | Document Number                          | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|                        |                          | Number Kind Code <sup>2</sup> (if known) |                                |  |   |
|                        | AA                       | US-4,122,343                             | 10-24-1978                     | Risby et al.                                       |   |
|                        | AB                       | US-5,136,686                             | 08-04-1992                     | Koza.  |   |
|                        | AC                       | US-5,687,716                             | 11-18-1997                     | Kaufmann et al.                                    |   |
|                        | AD                       | US-5,697,369                             | 12-16-1997                     | Long, Jr. et al.                                   |   |
|                        | AE                       | US-5,716,825                             | 02-10-1998                     | Hancock et al.                                     |   |
|                        | AF                       | US-5,790,761                             | 08-04-1998                     | Heseltine et al.                                   |   |
|                        | AG                       | US-5,839,438                             | 11-21-1998                     | Graettinger et al.                                 |   |
|                        | AH                       | US-5,905,258                             | 05-18-1999                     | Clemmer et al.                                     |   |
|                        | AI                       | US-5,946,640                             | 08-31-1999                     | Goodacre et al.                                    |   |
|                        | AJ                       | US-6,025,128                             | 02-15-2000                     | Veltri et al.                                      |   |
|                        | AK                       | US-6,128,608                             | 10-03-2000                     | Barnhill.  |   |
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|                        | AN                       | US-6,427,141 B1                          | 07-30-2002                     | Barnhill.  |   |
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|                        | AP                       | US-2002/0046198 A1                       | 04-18-2002                     | Hitt   |   |
|                        | AQ                       | US-2002/0138208 A1                       | 09-26-2002                     | Paulse et al.                                      |   |
|                        | AR                       | US-2002/0193950 A1                       | 12-19-2002                     | Gavin et al.                                       |   |
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|                        |                          |  |                                |  |   |
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| FOREIGN PATENT DOCUMENTS |                          |                           |                     |                                   |                                |   |  |                          |
|--------------------------|--------------------------|---------------------------|---------------------|-----------------------------------|--------------------------------|---|--|--------------------------|
| Examiner<br>Initials*    | Cite<br>No. <sup>1</sup> | Foreign Patent Document   |                     |                                   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited<br>Document | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear | T <sup>6</sup>           |
|                          |                          | Country Code <sup>3</sup> | Number <sup>4</sup> | Kind Code <sup>5</sup> (if known) |                                |   |  |                          |
|                          | AT                       | WO                        | 01/20043            | A1                                | 03-22-2001                     | Khurgin, et al.                                       |  | <input type="checkbox"/> |
|                          | AU                       | WO                        | 01/31579            | A2                                | 05-03-2001                     | Guyon, et al.   |  | <input type="checkbox"/> |
|                          | AV                       | WO                        | 01/31580            | A2                                | 05-03-2001                     | Guyon, et al.   |  | <input type="checkbox"/> |
|                          | AW                       | WO                        | 01/84140            | A2                                | 11-18-2001                     | Haller, et al.  |  | <input type="checkbox"/> |
|                          | AX                       | WO                        | 01/99043            | A1                                | 12-27-2001                     | Hitt  |  | <input type="checkbox"/> |
|                          | AY                       | WO                        | 02/06829            | A2                                | 01-24-2002                     | Petricoin, et al.                                     |  | <input type="checkbox"/> |
|                          | AZ                       | WO                        | 02/059822           | A2                                | 08-01-2002                     | Weston, et al.  |  | <input type="checkbox"/> |
|                          | BA                       | WO                        | 02/088744           | A2                                | 11-07-2002                     | Marshall, et al.                                      |  | <input type="checkbox"/> |
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| Examiner<br>Signature |  | Date<br>Considered |  |
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| Substitute for form 1449B/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(use as many sheets as necessary) |   | <b>Complete if Known</b> |                    |                        |                 |
|  |   | Application Number       | 10/669,499         |                        |                 |
|  |   | Filing Date              | September 23, 2003 |                        |                 |
|  |   | First Named Inventor     | Paulse, Chris D.   |                        |                 |
|  |   | Art Unit                 | 2863               |                        |                 |
|  |   | Examiner Name            | Tung S. Lau        |                        |                 |
| Sheet  | 2 | of                       | 6                  | Attorney Docket Number | 016866-006211US |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials *             | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|                                 | BB                    | Alaiya et al., "Classification of Human Ovarian Tumors Using Multivariate Data Analysis of Polypeptide Expression Patterns." Int. J. Cancer, vol. 86, pp. 731-736, Wiley-Liss, Inc., (2000).  |                |
|                                 | BC                    | Ashfaq, et al., "Evaluation of PAPNET.TM. System for Rescreening of Negative Cervical Smears", Diagnostic Cytopathology, 1995, pp. 31-36, vol. 13, No. 1.   |                |
|                                 | BD                    | Astion, et al., The Application of Backpropagation Neural Networks to Problems in Pathology and Laboratory Medicine, Arch Pathol Lab Med, Oct. 1992, pp. 995-1001, vol. 116.  |                |
|                                 | BE                    | Atkinson, Ph.D., et al., "Statistical Techniques for Diagnosing CIN Using Fluorescence Spectroscopy: SVD and CART", Journal of Cellular Biochemistry, Supplement, 1995, pp. 125-130, vol. 23.   |                |
|                                 | BF                    | Babaian, et al., "Performance of a Neural Network in Detecting Prostate Cancer in the Prostate-Specific Antigen Reflex Range of 2.5 to 4.0 ng/mL", Urology, 2000, pp. 1000-1006, vol. 56, No. 6.  |                |
|                                 | BG                    | Bailey-Kellogg et al., "Reducing Mass Degeneracy in SAR by MSby Stable Isotopic Labeling." Journal of Computational Biology, vol. 8, No. 1, pp 19-36, Mary Ann Liebert, Inc., (2001).   |                |
|                                 | BH                    | Belic, "Neural Networks Methodologies for Mass Spectra Recognition", 4 pgs.   |                |
|                                 | BI                    | Belic, et al., "Neural network methodologies for mass spectra recognition", Vacuum, 1997, pp. 633-637, vol. 48, Nos. 7-9.   |                |
|                                 | BJ                    | Berikov, et al., "Regression trees for analysis of mutational spectra in nucleotide sequences", Bioinformatics, 1999, pp. 553-562, vol. 15, Nos. 7/8.   |                |
|                                 | BK                    | Breiman, et al., Chapters 6-8 in Classification and Regression Trees, CRC Press (Boca Raton), 1998, pp. 174-265.  |                |
|                                 | BL                    | Cairns, et al., "Towards the Automated Prescreening of Breast X-Rays", Digest of the IEE Colloquium, Applications of Image Processing in Mass Health Screening, University of Dundee, pp. 1/1-1/5.  |                |
|                                 | BM                    | Caprioli et al. "Molecular Imaging of Biological Samples: Localization of Peptides and Proteins Using MALDI-TOF MS." Analytical Chemistry, vol. 69, No. 23, pp 4751-4760, American Chemical Society, (Dec. 1, 1997).  |                |
|                                 | BN                    | Chace, et al., "Laboratory integration and utilization of tandem mass spectrometry in neonatal screening: a model for clinical mass spectrometry in the next millennium", Acta Paediatr Supp 432, 1999, pp. 45-47, vol. 88.                                     |                |
|                                 | BO                    | Chun, et al., "Long-term Identification of Streptomyces Using Pyrolysis Mass Spectrometry and Artificial Neural Networks", Zbl. Bakt., 1997, pp. 258-266, vol. 285.   |                |
|                                 | BP                    | Cicchetti, "Neural Networks and Diagnosis in the Clinical Laboratory: State of the Art", Clin. Chem., 1992, pp. 9-10, vol. 38, No. 1.   |                |
|                                 | BQ                    | Crawford, et al., "Computer Methods in Analytical Mass Spectrometry. Empirical Identification of Molecular Class", Analytical Chemistry, Aug., 1968, pp. 1469-1474, vol. 40, No. 10.  |                |

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| Examiner Signature |  | Date Considered |  |
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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| SUBSTITUTE for form 1449B/PTO<br><br><b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(use as many sheets as necessary) |   | <b>Complete if Known</b> |                    |                        |                 |
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| Sheet  | 3 | of                       | 6                  | Attorney Docket Number | 016866-006211US |

| NON PATENT LITERATURE DOCUMENTS |                       |   |                |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials *             | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.   | T <sup>2</sup> |
|                                 | BR                    | Curry, et al., "MSnet: A Neural Network That Classifies Mass Spectra", Stanford Science Center, Stanford University, Stanford, California, Oct. 1990, pp. 1-31.   |                |
|                                 | BS                    | Dudoit, et al., "Comparison of Discrimination Methods for the Classification of Tumors Using Gene Expression Data", Technical report #576, Jun. 2000, pp. 1-43.   |                |
|                                 | BT                    | Dudoit, et al., "Comparison of discrimination methods for the classification of tumors using gene expression data", UC Berkeley, Slides, 52 pages, URL= <a href="http://stat-www.berkeley.edu/users/terry/zarray/Html/dscr.html">http://stat-www.berkeley.edu/users/terry/zarray/Html/dscr.html</a> , (Mar. 7, 2000). |                |
|                                 | BU                    | Dzeroski, et al., "Diterpene Structure Elucidation From .sup.- C NMR-Spectra With Machine Learning", Chapter 12 in Intelligent Data Analysis in Medicine and Pharmacology, N. Lavrac, et al. ed., Kluwer Academic Publishers (Boston), 1997, pp. 207-225.   |                |
|                                 | BV                    | Eghbaldar, et al., "Identification of Structural Features from Mass Spectrometry Using a Neural Network Approach: Application of Trimethylsilyl Derivatives Used for Medical Diagnosis", J. Chem. Inf. Comput. Sci., 1996, pp. 637-643, vol. 36.  |                |
|                                 | BW                    | Freeman, et al., "Resolution of batch variations in pyrolysis mass spectrometry of bacteria by the use of artificial neural network analysis", Antonie van Leeuwenhoek, 1995, pp. 253-260, vol. 68.   |                |
|                                 | BX                    | Furlong, et al., "Neural Network Analysis of Serial Cardiac Enzyme Data, A Clinical Application of Artificial Machine Intelligence", Am J Clin Pathol, 1991, pp. 134-141, vol. 96.  |                |
|                                 | BY                    | George, "A Visualization and Design Tool (AVID for Data Mining with the Self-Organizing Feature Map." International Journal on Artificial Intelligence Tools, vol. 9, No. 3, pp. 369-375, World Scientific Publishing Company, (2000).  |                |
|                                 | BZ                    | Goodacre, "Rapid identification of urinary tract infection bacteria using hyperspectral whole-organism fingerprinting and artificial neural networks", Microbiology, 1998, pp. 1157-1170, vol. 144.   |                |
|                                 | CA                    | Goodacre, et al., "Correction of Mass Spectral Drift Using Artificial Neural Networks", Anal. Chem., 1996, pp. 271-280, vol. 68.  |                |
|                                 | CB                    | Goodacre, et al., "Identification and Discrimination of Oral Asaccharolytic Eubacterium spp. by Pyrolysis Mass Spectrometry and Artificial Neural Networks", Current Microbiology, 1996, pp. 77-84, vol. 32.  |                |
|                                 | CC                    | Goodacre, et al., "Quantitative Analysis of Multivariate Data Using Artificial Neural Networks: A Tutorial Review and Applications to the Deconvolution of Pyrolysis Mass Spectra", Zbl. Bakt., 1996, pp. 516-539, vol. 284.  |                |
|                                 | CD                    | Goodacre, et al., "Sub-species Discrimination, Using Pyrolysis Mass Spectrometry and Self-organising Neural Networks, of Propionibacterium acnes Isolated from Normal Human Skin", Zbl. Bakt., 1996, pp. 501-515, vol. 284.   |                |
|                                 | CE                    | Goodacre, et al., Discrimination between methicillin-resistant and methicillin-susceptible Staphylococcus aureus using pyrolysis mass spectrometry and artificial neural networks, Journal of Antimicrobial Chemotherapy, 1998, pp. 27-34, vol. 41.   |                |
|                                 | CF                    | Gray, "Constraints on 'Learning Machine' Classification Methods", Analytical Chemistry, Dec. 1976, pp. 2265-2268, vol. 48, No. 14.  |                |
|                                 | CG                    | Gustav Schroll, et al., "Applications of Artificial Intelligence for Chemical Inference. III. Aliphatic Ethers Diagnosed by Their Low-Resolution Mass Spectra and Nuclear Magnetic Resonance Data", Journal of the American Chemical Society, Dec. 17, 1969, pp. 7440-7445, vol. 91, No. 26.                          |                |

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|                                 | CH                    | Halket, et al., "Deconvolution Gas Chromatography/Mass Spectrometry of Urinary Organic Acids—Potential for Pattern Recognition and Automated Identification of Metabolic Disorders", Rapid Commun. Mass Spectrom, 1999, pp. 279-284, vol. 13.  |                |
|                                 | CI                    | Hashemi, et al., "Identifying and Testing of Signatures for Non-Volatile Biomolecules Using Tandem Mass Spectra", Sigbio newsletter, ACM Press, Dec. 1995, pp. 11-19, vol. 15, No. 3.  |                |
|                                 | CJ                    | Hausen, et al., "Determination of Neopterin in Human Urine by Reversed-Phase High-Performance Liquid Chromatography", Journal of Chromatography, 1982, pp. 61-70, vol. 227.  |                |
|                                 | CK                    | Jain, et al., "Statistical Pattern Recognition: A Review", IEEE Transactions on Pattern Analysis and Machine Intelligence, Jan. 2000, pp. 4-37, vol. 22, No. 1.  |                |
|                                 | CL                    | Jellum, et al., "Mass Spectrometry in Diagnosis of Metabolic Disorders", Biomedical and Environmental Mass Spectrometry, 1988, pp. 57-62, vol. 16.   |                |
|                                 | CM                    | Jurs, et al., "Computerized Learning Machines Applied to Chemical Problems. Molecular Formula Determination from Low Resolution Mass Spectrometry", Analytical Chemistry, Jan. 1969, pp. 21-27, vol. 41, No. 1.  |                |
|                                 | CN                    | Kenyon, et al., "Application of Neural Networks to the Analysis of Pyrolysis Mass Spectra", Zbl. Bakt., 1997, pp. 267-277, vol. 285.   |                |
|                                 | CO                    | Kohavi et al., "Wrappers for Feature Subset Selection." Artificial Intelligence, vol. 97, No. 1-2, pp. 273-324, Elsevier Science B.V., (1997).   |                |
|                                 | CP                    | Kohno, et al., "Quantitative Analysis of Scintiscan Matrices by Computer", Japanese Journal of Medical Electronics and Biological Engineering, Aug. 1974, pp. 218-225, vol. 12, No. 4.   |                |
|                                 | CQ                    | Lowry, et al., "Comparison of Various K-Nearest Neighbor Voting Schemes with the Self-Training Interpretive and Retrieval System for Identifying Molecular Substructures from Mass Spectral Data", Analytical Chemistry, Oct. 1977, pp. 1720-1722, vol. 49, No. 12.                            |                |
|                                 | CR                    | Macfie, et al., "Use of Canonical Variates Analysis in Differentiation of Bacteria by Pyrolysis Gas-Liquid Chromatography", Journal of General Microbiology, 1978, pp. 67-74, vol. 104.  |                |
|                                 | CS                    | Malins, et al., "Models of DNA structure achieve almost perfect discrimination between normal prostate, benign prostatic hyperplasia (BPH), and adenocarcinoma and have a high potential for predicting BPH and prostate cancer", Proc. Natl. Acad. Sci. USA, Jan. 1997, pp. 259-264, vol. 94. |                |
|                                 | CT                    | Marvin et al., "Characterization of a novel Sepia officinalis neuropeptide using MALDI-TOF MS and post-source decay analysis." Peptides, vol. 22, No. 9., pp 1391-1396, Elsevier Science Inc., (Sep. 2001).  |                |
|                                 | CU                    | Meuzelaar, et al., "A Technique for Fast and Reproducible Fingerprinting of Bacteria by Pyrolysis Mass Spectrometry", Analytical Chemistry, Mar. 1973, pp. 587-590, vol. 45, No. 3.  |                |
|                                 | CV                    | Meyer, et al., "Identification of the .sup.1 H-NMR Spectra of Complex Oligosaccharides with Artificial Neural Networks", Science, Feb. 1991, pp. 542-544, vol. 251.  |                |
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| Examiner Signature |  | Date Considered |  |
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|---|---|----|--------------------------|------------------------|-----------------|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br><br>(use as many sheets as necessary) |   |    | <b>Complete if Known</b> |                        |                 |
|   |   |    | Application Number       | 10/669,499             |                 |
|   |   |    | Filing Date              | September 23, 2003     |                 |
|   |   |    | First Named Inventor     | Paulse, Chris D.       |                 |
|   |   |    | Art Unit                 | 2863                   |                 |
|   |   |    | Examiner Name            | Tung S. Lau            |                 |
| Sheet   | 5 | of | 6                        | Attorney Docket Number | 016866-006211US |

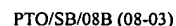
| NON PATENT LITERATURE DOCUMENTS |                       |   |  |                |
|---------------------------------|-----------------------|---|--|----------------|
| Examiner Initials *             | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |  | T <sup>2</sup> |
|                                 | CX                    | Nilsson, et al., "Classification of Species in the Genus Penicillium by Curie Point Pyrolysis/Mass Spectrometry Followed by Multivariate Analysis and Artificial Neural Networks", Journal of Mass Spectrometry, 1996, pp. 1422-1428, vol. 31.                  |  |                |
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Sheet

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of

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Application Number

10/669,499

**Filing Date**

September 23, 2003

*First Named Inventor*

Paulse, Chris D.

**Art Unit**

2863

**Examiner Name**

**Tung S. Lau**

Attorney Docket Number

016866-006211US

## NON PATENT LITERATURE DOCUMENTS

**Examiner  
Signature**

Date \_\_\_\_\_

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